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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,364	02/07/2007	Peter Rozim	0182-00018	6050
26659	7590	11/14/2008	EXAMINER	
RAGGIO & DINNIN, P.C. 2701 CAMBRIDGE COURT, STE. 410 AUBURN HILLS, MI 48326			MCMAHON, MARGUERITE J	
ART UNIT	PAPER NUMBER			
	3741			
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,364	Applicant(s) ROZIM, PETER
	Examiner Marguerite J. McMahon	Art Unit 3741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08) _____
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP01232156A) in view of Bolasny (3,878,469). Takahashi shows a method for reducing emission and fuel consumption in order to improve combustion in internal combustion engines, whereas the fuel and air are lead through a treatment area in which by applying high voltage, the air stream is provided with a charge of a first polarity and the fuel stream a charge of the opposite polarity. Takahashi shows everything except vibrating at least one of the air and fuel stream by a frequency in the ultrasonic range utilizing an ultrasound generator, the air or fuel stream being vibrated in several successive or parallel sections, the range of vibration being in the range of 35 to 45 KHz. Bolasny teaches that it is old in the art to employ an ultrasound generator 33 to provide variable vibration in the range of 38 to 58 kHz to the air. It would have been obvious to one having ordinary skill in the art to modify Takahashi by employing an ultrasound generator to provide variable vibration in the range of 38 to 58 kHz to the air, in order to improve combustion characteristics. In addition, it would have been an obvious matter of design choice to provide additional vibration sections in series or parallel, since it has been held that mere duplication of the essential working parts of a

device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP01232156A) in view of Bolasny (3,878,469) as applied to claims 1-9 and 13-14 above, and further in view of Child et al (4,344,404). Takahashi in view of Bolasny show everything except utilizing a piezoelectric transducer 53 connected to ultrasound generator 13 to provide vibration to the fuel. It would have been obvious to one having ordinary skill in the art to modify Takahashi in view of Bolasny by providing ultrasonic vibration to the fuel means, in order to improve combustion characteristics.

Response to Arguments

Applicant's arguments filed 8/13/08 have been fully considered but they are not persuasive.

Applicant argues that "none of the references cited disclose a method wherein ultrasonic waves, as used by Applicant in his methodology, has no role in the atomizing of the fuel." The examiner is unsure what Applicant is trying to say here

Applicant further argues that in Applicant's invention the fuel is not ionized and as such the fuel is only electronically charged by the aid of the electrode or electrodes. The definition of an ion is an atom or a group of atoms that carries an electric charge. Thus, by definition, what Applicant's invention is doing is ionizing the fuel. Note also that in claim 9, reference is made to a "first ionising unit" and "at least one ionising unit".

Applicant further argues that Applicant's methodology in the course of providing the fuel with the electronic charge has one or more of the electrodes excited with

ultrasonic waves in order to repulse or remove the fuel molecules from the electrodes and to improve the material stream. The examiner founds that the claims only mention the air and/or fuel stream being vibrated with a frequency in the ultrasonic range, not the electrodes. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant further argues that the methodology claimed by the Applicant employs a continuous DC voltage and duty cycles such that there is no resonance cavity or hole and as such the piezo wafer and the electrode are in direct physical contact. The examiner did not find these limitations in the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant further argues that the Takahashi reference only discloses a device for an internal combustion engine and "nowhere in the reference, as enclosed in the office action, discloses a methodology reducing emission and fuel consumption in an internal combustion engine. Applicant's attention is drawn to the abstract of the Takashashi reference which cites that its purpose is "to contrive the reduction of CO and NOx or the like [which are components of the exhaust] and the improvement of torque [which will improve engine efficiency, thereby decreasing fuel consumption]..."

Applicant further argues that the Bolasny reference could not be modified to perform the methodology as claimed by Applicant because the high volume of flowing air used by Applicant would make it extremely difficult to carry out. Applicant goes on

to say that the ultrasonic generation is achieved in the Bolasny reference by streaming high pressure air which is hard to achieve and realize in internal combustion engines. The examiner is confused by this argument, as it appears to first say that the high volume of flowing air utilized by Applicant (which is not mention in the claims) precludes the teaching of Bolasny, but then the argument is turned around and appears to say that the Bolasny reference employs air pressure which is too hard to manage. The argument is not convincing.

Applicant continues with "Therefor, any such combination of the two references could only result in a system having an ultrasonic excitation of the fuel that is similar to the known ultrasonic flushing out apparatus of the prior art." The examiner finds the use of the term "therefore" in this context misleading. Nothing in the previous statements leads to the conclusion posited by the use of the word therefore, and the conclusion is spurious.

Applicant next makes a series of statements (see page 4 of Remarks) which fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant further argues that the Bolasny reference rejects the use of electric ultrasonic sound wave pulse generator and teaches exclusively to the use of the resonant cavity type generator. This is not true. The Bolasny reference employs an electric ultrasonic sound wave pulse generator; see abstract.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 571-272-4848. The examiner can normally be reached on Monday- Friday, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on 571-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marguerite McMahon
Primary Examiner
Art Unit 3741

/Marguerite McMahon/
Primary Examiner, Art Unit 3741

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